Research and Application of Equipment Management in Iron and Steel Enterprises Based on Life Cycle

DOI: 10.23977/jemm.2020.050104

ISSN 2371-9133

Peng Wang*

School of Economics and Management, Dalian University, No.10, Xuefu Avenue, Economic & Technical Development Zone, Dalian, Liaoning, The People's Republic of China(PRC) *corresponding author: Peng Wang

Keywords: Full life cycle; iron and steel enterprises; equipment management; information construction

Abstract: As an important part of heavy industry, iron and steel enterprises have received great attention and support from the state. But now that the new economy is reforming, iron and steel companies are constrained by traditional equipment management thinking, and it is difficult to make good use of various resources. With the continuous reform of China's economy, the only way for modern enterprises is information construction. Steel companies cannot stop at their past achievements and must make changes. Below we will study the equipment management of iron and steel enterprises based on the full life cycle.

1. Introduction

Today in the 21st century is an information age. As one of the representatives of traditional heavy industry, iron and steel enterprises have to make corresponding changes in corporate management to adapt to today's market economy. Coupled with the new supply-side structural reforms and the excessive saturation of the steel market in recent years, the traditional management model of steel companies is no longer applicable to today's market. The informationization of equipment management in steel enterprises is imminent. Informatization refers to the use of modern information technology as a management method and approach. In the new management system, to improve the market competitiveness of enterprises, we must continuously improve the management of enterprises. Under the traditional enterprise management model, more and more contradictions have already appeared. The contradiction between equipment and traditional management mode is particularly prominent. Equipment is critical to any business. Whether an enterprise's equipment is excellent is directly related to the market competitiveness of an enterprise. Advanced and excellent equipment will bring great profits and benefits to the enterprise. So let's study the equipment management of steel enterprises in the whole life cycle today[1].

2. Management Goal

Guided by the "equipment life cycle management theory", the equipment status management platform is guided by the equipment life cycle management concept, combined with the characteristics of the equipment management organization, equipment category, and maintenance

mode. Withdrawal from the business, application support for three dimensions of equipment basic management, business management and professional analysis.

"Equipment + maintenance strategy" as the management object Equipment status management is mainly oriented to production equipment. From the equipment maintenance mode, it is divided into daily maintenance, scheduled maintenance, and overhaul. "Equipment" and "maintenance strategy" are the management objects. Focus on lifecycle business.

The "business synergy" guarantees that the company has a large number of professional fields and complex organizations. During the transfer of equipment management business, equipment management, procurement management, financial management, related professional management and other departments will be used throughout the equipment. Departments, project departments, companies, and even multiple levels involving external maintenance units. In order to ensure the smooth execution of business, when designing the system, you need to design the function from the perspective of business collaboration.

The premise of "dynamic tracking" is that the types of equipment are complex, the composition is huge, and the quantity is large. Therefore, the accuracy and timeliness of equipment data is particularly important during business processing. Therefore, the system functions must be designed with "dynamic updating and process tracking" As a premise, it is particularly necessary to pay attention to the organizational form and association relationship of real-time status detection, deterioration trend analysis, inspection, maintenance and other related business process flows to achieve an orderly flow of data information[2].

3. The Purpose of Building Information

The ultimate purpose of building informatization management is of course to manage steel companies well. Under information-based enterprise management, the use of information technology can make management easier and more convenient. The links between steel companies and the market are closer. One of the characteristics of the information age, the information is updated quickly. Allows enterprises to quickly grasp market information and adjust to the best state in time to adapt to the market. It is very important for an enterprise to grasp the market in a timely manner. Only by grasping the market conditions can it make correct decisions. Informatization not only makes the enterprise and the market closer, but also makes the work between the various layers of the enterprise more convenient and easier to manage. Database technology and network technology have brought a lot of convenience to modern enterprises, which is why modern enterprises have successively built informatization. Modern enterprise construction informatization can not only optimize the management mode, but also save a lot of time, because understanding the market has great benefits for the company's market analysis, which greatly saves the company's capital investment. The information management method is a management method that is generally chosen by mature and modern enterprises.

4. Specific Equipment Management Analysis

4.1. Early Management of Equipment

There is a lot of work in the early stage of equipment management. For a steel company, the early stage of equipment needs to research and inspect the equipment, including the technical inspection and ordering quantity of equipment, which requires the intervention of the enterprise. A standardized model for these For management. Many companies don't pay much attention to the previous work, or think that there are not too many things that need attention in the previous work. Many steel companies do not pay much attention to the preliminary work, and the standardization

of the preliminary work is not enough. Recording materials are also one of the key points in the preliminary work. Recording materials need to be determined first, and its supervision cannot be ignored. Supervisors need to have a clear grasp of the role of the recording materials. They also need to understand the work of relevant factories and propose their Opinions and questions have another important link: acceptance. Acceptance needs to be careful and not sloppy.

4.2. Mid-Term Equipment Management

Mid-term work is the most tedious and complicated, and the work is difficult and intensive. But the management of equipment in the medium term is also the most important. Because of this, the management work in the medium term requires more time and energy to do a good job. The difficulties faced by iron and steel enterprises are even greater than this. Facing the saturated state of the steel market and structural reforms on the supply side, steel companies need to consider how to adjust production and sales models, and even change sales channels. The technology including steel must also be constantly updated and strengthened to keep up with the pace and needs of the times. Great changes have taken place from the production and sale of steel, which requires management agencies to continuously reduce labor time and improve product quality in the management of equipment. Every aspect of the equipment needs constant improvement. This is a very tedious process, and there may be many failed experiences in the middle, which require the joint exploration of the entire steel industry. In order to achieve products that meet social requirements, many efforts must be made in extending the enterprise chain, improving equipment quality and expanding the market to meet consumer demand.

4.3. Late Equipment Management

After all the equipment is ready, it does not mean that the management of the equipment is over. Although it is said that the equipment's later management work may not be as intensive and concentrated as the mid-term management work, the later work is still an inevitable step. How to make the equipment as a fixed asset to send more residual value is one of the directions that need to be considered in the later work. Under the management of information technology, equipment can play more value and get greater utilization. If the equipment's later management is in place, it will improve the work efficiency and management level of the enterprise.

Acknowledgements

This article was specially funded by Dalian University's 2019 Ph.D. Startup Fund (20182QL001) and 2019 Jinpu New District Science and Technology Project.

References

- [1] Yang Tang. (2016) Risk Identification and Quantitative Evaluation Method for Asset Integrity Management of Offshore Platform Equipment and Facilities, Mathematical Problems in Engineering, 6, 56-62
- [2] Xiaolong Song. (2018) An updated review and conceptual model for optimizing WEEE management in China from a life cycle perspective, Frontiers of Environmental Science & Engineering, 8, 88-106